

essary to reverse reduced regulation policies in response to any performance problems presents another perspective on the experience with relaxed regulation. Virtually all of the states that have implemented reduced regulation have retained their authority to reinstitute more stringent regulatory controls if the experience did not benefit consumers. Moreover, these states have continued to monitor various aspects of market performance to detect whether any undesirable consequences have materialized. An absence of reregulation clearly is indicative of competitive market performance.

Here again, the evidence is unequivocal. No state that has relaxed regulation has found it necessary to reverse itself. Indeed, in the state with the longest experience with relaxed (and symmetric) regulation, the Virginia State Corporation Commission staff concluded that, "the information put forward here reflects well, overall, on the effects of deregulation on AT&T's prices in Virginia."⁶⁰ Similarly, in the state of Washington, where AT&T has been granted substantial pricing flexibility with symmetric regulation, an examination of interexchange rates led the Washington Utilities and Transportation Commission to conclude that "the competitive marketplace is working."⁶¹

B. Relaxed Regulation: Business Services

The marketplace experience after the FCC's relaxation of regulation of AT&T's business services in 1991 supplies additional evidence on the merits of relaxed regulation.⁶² Competition for these services has flourished in the wake of the removal of pricing controls for AT&T. Moreover, while this competi-

tion has been "messy" for individual competitors, with hundreds of promotional offerings and thousands of individual contract offerings, customers have benefited immensely. Nominal prices have declined by roughly fifteen percent, scores of new services have been introduced, and quality has improved.⁶³ This positive experience with the Commission's removal of pricing controls for business services provides additional evidence that asymmetric regulation of interexchange services is simply unnecessary and is, in fact, harmful in today's marketplace.

In summary, the published literature, internal staff studies, and state and federal regulatory decisions to retain relaxed regulation policies all support the conclusion that effective competition prevails in the interexchange market. This body of empirical evidence does not support continued asymmetric regulation of AT&T by either federal or state regulators under the "dominant" firm classification inherited from the pre-divestiture period.

C. Direct Econometric Estimates of AT&T's Market Power

In recent years, the advancement of "new empirical industrial organization" techniques has provided the means in certain situations to examine the market power of individual firms directly.⁶⁴ At least two such studies of the interexchange industry have now been performed.⁶⁵ Both employ a variant of the so-called residual demand estimation approach to generate empirical estimates of the "Lerner index" for AT&T.⁶⁶ This index provides a direct measure of the degree of market power held by the firm.⁶⁷ Inter-

supra note 1, Att. V (demonstrating that, when properly calculated, AT&T's rate reductions exceed access charge reductions that have been resulting from regulation). Thus, while access charge changes have, without doubt, contributed to the evolving set of prices in the post-divestiture era, the assertion that revenue reductions are eclipsed by access charge reductions is incorrect. Moreover, the studies noted herein demonstrate that relaxed regulation of AT&T's toll services has had beneficial effects on prices after accounting for access charge changes.

⁶⁰ VA STATE CORP. COMM'N, THE EFFECT OF DEREGULATION ON AT&T PRICING IN VIRGINIA AND A COMPARISON OF AT&T PRICING IN TEN STATES ACROSS THE UNITED STATES 14 (1987).

⁶¹ THE WASH. UTIL. AND TRANSP. COMM., THE STATUS OF THE WASHINGTON TELECOMMUNICATIONS INDUSTRY 52 (submitted to the Washington State Legislature, Jan. 27, 1989).

⁶² The FCC allowed AT&T to offer contract-based rates and terms of service to business customers. AT&T was required to file these rates and conditions with the Commission and to make them generally available to all similarly situated custom-

ers, and such filings required 14 day notice. *In re Competition in the Interstate Interexchange Marketplace, Report & Order*, 6 FCC Rod. 5880, 5901, recon. in part, 6 FCC Rod. 7569 (1991); *further recon.*, 7 FCC Rod. 2677 (1992). Two years later, in the same docket, the Commission concluded that the 800 services market was competitive enough to remove price cap regulation on AT&T for these services. *Second Report & Order*, 8 FCC Rod. 3668 (1993).

⁶³ *Ex Parte Presentation*, *supra* note 1, at 39-40.

⁶⁴ For a survey of studies making use of these techniques see Timothy F. Bresnahan, *Empirical Studies of Industries with Market Power*, in 2 HANDBOOK OF INDUS. ORGANIZATION 1011, 1051-55 (R. Schmalensee & R.D. Willig eds., 1989).

⁶⁵ WARD, *supra* note 43; Kahai et al., *supra* note 27.

⁶⁶ See A.P. Lerner, *The Concept of Monopoly and the Measurement of Monopoly Power*, 1 THE REV. OF ECON. STUD. 157 (1933-1934). Lerner sets forth a formula to measure monopoly power. Where "P" is price and "C" is marginal cost the "Lerner index" is given by $(P - C) / P$. *Id.* at 169.

⁶⁷ WARD, *supra* note 43.

estingly, these two studies make use of substantially different methodologies and data sets, yet they reach strikingly similar conclusions. Specifically, both studies find that AT&T holds little market power. In fact, the Lerner index for AT&T is found to be well below that of many firms operating in completely unregulated industries.

The first study, by Michael Ward, staff economist at the FTC, makes use of two data sets — a time series for interstate calling that covers the period from July 1986 to August 1991, and a pooled sample of monthly data that covers the 1988-1991 period for five states.⁶⁶ His study focuses on the small business and residential portion of the overall interexchange market.⁶⁷ Simultaneous equations estimation techniques are employed to estimate both demand and supply relationships.⁶⁸ Ward's results lend further support to the conclusion that AT&T holds no economically significant market power in the interexchange services market.⁶⁹

The second study to attempt a direct measurement of AT&T's market power is by Simran Kahai and the authors of this paper.⁷⁰ This study makes use of quarterly observations on interstate calling volumes and tariffed rates for residential MTS service over the period of third quarter 1984 to fourth quarter 1993. The theoretical framework for this study is provided by the dominant firm/competitive fringe model.⁷¹ Using this model, the study estimated simultaneously the total market demand and competitive fringe supply curves while controlling for exoge-

nous variables such as the price of carrier access and the percent of lines converted to equal access.⁷² From these estimates and known values for AT&T's market share (based on either capacity or minutes-of-use), calculation of the price elasticity of AT&T's residual demand curve is feasible. The Lerner index for AT&T, then, is given directly by the reciprocal of this elasticity.

The estimated values for this index fall between 0.13 and 0.29, depending upon which market share figure is used.⁷³ These values are then compared to Lerner index estimates for other (predominantly unregulated) industries reported in two prior studies, by Robert E. Hall⁷⁴ and Timothy F. Bresnahan.⁷⁵ Both of these comparisons support the conclusion that, relative to other firms in the United States economy, AT&T possesses very little market power. From these estimates and comparisons, the study concludes that:

Comparison of these values with prior Lerner index estimates for firms in other industries suggests that, relative to these other (unregulated) industries, the long distance market is highly competitive . . . [t]o the extent that the 'dominant firm' label and the affiliated policy of asymmetric regulation were originally proposed as a mechanism to handle residual, but significant, monopoly power on the part of AT&T, our findings clearly indicate that this is a label and policy that are no longer warranted.⁷⁶

Thus, both studies have estimated directly the degree of market power held by AT&T and are in close agreement. Both demonstrate the positive impact of

⁶⁶ *Id.* at 24-25.

⁶⁷ Note that this is the Price Cap Basket 1 portion of the market, in which the greatest concern has been expressed regarding the possibility of significant market power by AT&T. Thus, Ward's results should hold *a fortiori* for the remainder of the interexchange market.

⁶⁸ WARD, *supra* note 43, at v.

⁶⁹ From the results of this estimation, Ward writes that [t]his study measures empirically the competitiveness of the long-distance telephone market. To do so, it estimates firm-specific long-run demand elasticities for AT&T and its rivals for long-distance service marketed to households and small businesses during 1988-1991. A lower-bound for AT&T's long-run demand elasticity is estimated to be approximately -10.1. If AT&T's prices were completely unregulated, this elasticity estimate implies that the upper-bound deadweight loss due to allowing AT&T to set prices in excess of marginal cost would be about 0.36% of total industry revenues in 1991, or \$199 million in 1991. While direct estimates of the costs imposed by the current form of regulation are not available, this welfare loss estimate is well below previous estimates of the benefits that followed partial deregulation of the long-distance market. . . . The estimation results lead us to a number of conclusions. Chief among them is that the long-distance mar-

ket is relatively competitive. Because the long-distance market appears more competitive now than during the period covered by our analysis, the current deadweight loss from AT&T's exercise of market power may be even less than our estimates.

Id. at iii-v.

⁷⁰ See Kahai et al., *supra* note 27.

⁷¹ For a discussion of this model, see KASERMAN & MAYO, *supra* note 20, at 104-09. Despite the rather pejorative title of this model, its use implies no *a priori* presumption of significant market power on the part of the so-called "dominant firm." See generally Landes & Posner, *supra* note 21. For a more complete discussion of the term "dominant" in the economics and telecommunications regulation literatures see Kahai et al., *supra* note 27.

⁷² Kahai et al., *supra* note 27, at 11-15.

⁷³ *Id.* at 20. These estimates are probably biased upward due to the use of a short-run estimate of total market demand elasticity. They imply a price elasticity of demand for AT&T's services of between -3.45 and -7.69. *Id.*

⁷⁴ Robert E. Hall, *The Relation Between Price and Marginal Cost in U.S. Industry*, 96 J. OF POL. ECON. 921 (1988).

⁷⁵ Bresnahan, *supra* note 84, at 1051.

⁷⁶ Kahai et al., *supra* note 27, at 28-29.

reduced regulation on market performance, and fortify the more traditional structure-conduct-performance studies of underlying industry characteristics. The cumulative weight of this evidence overwhelmingly supports the conclusion that the interexchange market is subject to effective competition.

V. OTHER COMPETITIVE/POLICY ISSUES

The preceding assessment of the evidence from a variety of sources clearly demonstrates that AT&T does not possess the power to control price unilaterally in the interexchange market. That is, AT&T does not have significant market power. Consequently, under both the economic and regulatory definitions of dominance, AT&T is *not* a dominant firm.

Nonetheless, the authors have encountered some parties who have been willing to accept (or, at least, not oppose) this basic conclusion, but have been reluctant to advocate adoption of a symmetric regulatory policy. This reluctance is due to other concerns about market conduct and performance that might arise under such a policy. Specifically, three principal issues have been raised: the three largest firms could engage in tacit collusion and supra-competitive pricing;⁹⁹ AT&T could engage in predatory pricing, causing substantial exit and a reconcentration of the market; and AT&T may raise prices to its low volume or rural customers, where it is believed to hold a much larger market share.¹⁰⁰ In this section, we briefly address each of these competitive issues.

Before turning to these issues, however, two points are worth noting. First, the competitive concerns listed above are not new. Each of these issues has been raised and successfully resolved in various state-level regulatory proceedings. Despite allegations based on these concerns, numerous state commissions have chosen to implement relaxed/symmetric regulatory policies.¹⁰¹ To date, no evidence whatsoever has appeared that would indicate that anticompetitive consequences have emerged.

Second, when confronted with allegations that

these (or other) performance problems are likely to materialize in a less stringently regulated environment, questions must be asked: What, precisely, is the alleged concern? Is the market in question conducive to the sort of behavior postulated, and is there evidence that such behavior has arisen? Does the existing policy of asymmetric regulation make sense as a policy instrument to prevent the alleged conduct? Finally, is there an alternative, less stringent policy that is likely to be more successful in addressing the problem? Of course, the third and fourth questions are relevant only if the answer to the second is "yes." This sort of structured approach will help to ensure that public policy is responsive to the realities (and not the myths) of the marketplace. We now apply this approach to the issues listed above.

A. The Tacit Collusion Issue

From the time of divestiture, various parties have argued that long-distance telecommunications firms might engage (or are engaging) in tacit collusion to keep prices above competitive levels. The concept of tacit collusion was first developed by Edward H. Chamberlin in 1933.¹⁰² The basic idea is that under certain conditions, rival firms in a highly concentrated industry may gravitate toward the joint-profit maximizing (i.e., monopoly) price and output without actually entering into an explicit overt agreement to fix prices.¹⁰³ Whether this sort of behavior is likely to occur, however, is highly dependent upon the specific characteristics of the market in question. For tacit collusion to arise, industry conditions must be favorable to the stable sort of "meeting of the minds" that must occur to sustain this type of highly coordinated market conduct.¹⁰⁴

The market structure exhibited by the long-distance telecommunications industry is *not* conducive to such tacit collusion. At least seven structural attributes of this industry effectively preclude such behavior. First, collusion of any sort (either tacit or overt) cannot succeed in the absence of significant barriers to entry and expansion. The reason for this

⁹⁹ See RBOC Comments, *supra* note 75. See also Paul W. MacAvoy, *Tacit Collusion Under Regulation in the Pricing of Interstate Long-Distance Telephone Services*, 4 J. OF ECON. & MGMT. STRATEGY 147 (1995).

¹⁰⁰ This list of competitive issues is not exhaustive. It does, however, cover the major concerns that have been raised. This article's analytic analysis in responding to these concerns and the conclusions reached herein should easily be transferable to related issues.

¹⁰¹ See *supra* note 15 and accompanying text.

¹⁰² EDWARD H. CHAMBERLIN, *THE THEORY OF MONOPOLISTIC COMPETITION: A REORIENTATION OF THE THEORY OF VALUE* (8th ed. 1962).

¹⁰³ *Id.* at 106.

¹⁰⁴ Conspiracy within an industry may exist only where the behavior indicates "a unity of purpose or a common design and understanding, or a meeting of the minds in an unlawful arrangement." *Nurse Midwifery Assoc. v. Hibbet*, 918 F.2d 616 (6th Cir. 1990), cert. denied, 502 U.S. 952 (1991).

is straightforward. To the extent that colluding firms succeed in raising market prices above competitive levels, new firms will enter the industry and/or existing non-colluding firms will expand output unless entry and expansion barriers prevent such natural market responses. Such entry and output expansion increase supply and drive prices back down, thereby defeating any collusive attempts to increase prices. Therefore, tacit collusion cannot succeed (and, consequently, will not arise) in markets characterized by relatively easy entry. Indeed, the fundamental role that entry barriers play in allowing collusion or other anticompetitive forms of conduct to arise has led F.M. Scherer and David Ross to write that, "significant entry barriers are the *sine qua non* of monopoly and oligopoly . . ."¹⁰⁶ Additionally, Roger Sherman points out that "[t]o perpetuate a cooperative solution, the firms must be able to limit industrial capacity to supply the good. Existing firms must resist expansion and there must be barriers to the entry of new firms."¹⁰⁷

No substantial barriers to entry into the long-distance telecommunications industry exist. The observed entry of over 450 new firms during the past decade in the face of declining prices provides compelling evidence that entry into this market is readily achievable. Moreover, the market is free of major barriers to expansion that would prevent smaller firms already in the market from increasing their supply if the larger firms were to attempt to increase prices above competitive levels. Both MCI and Sprint entered this market at smaller scales than many current market participants now enjoy. The substantial market share gains these two firms have realized could be replicated by the smaller carriers if the top three firms were to increase prices to supra-competitive levels. Indeed, the combined market share of these smaller firms has more than doubled in recent years and now exceeds the market share of

Sprint.¹⁰⁷ With no substantial barriers to expansion, these firms provide an effective constraint against tacit collusion by AT&T and its larger rivals. Therefore, the absence of significant entry and expansion barriers provides an effective safeguard against tacit collusion in this market.

The second structural characteristic of the inter-exchange market that prevents the emergence of tacit collusion is the substantial amount of spare capacity that exists in this industry. The economic literature on collusive behavior widely recognizes the tendency for collusive arrangements to break down in the presence of excess capacity.¹⁰⁸ The logic of the argument is straightforward. Where excess capacity is present, the marginal cost of increasing the individual firm's output can be quite low. As a result, the difference between a collusive price and marginal cost becomes great, and the incentive to increase output (or "cheat" on the collusive agreement) is correspondingly great. As participating firms succumb to this incentive to cheat, the collusive agreement collapses and the market price falls towards the competitive level.¹⁰⁹ This has led Stephen Martin to conclude that "[f]or this reason, economists have argued that substantial excess capacity increases the likelihood of price wars and a breakdown in oligopolistic control of prices."¹¹⁰ Excess capacity is thus an anathema to successful collusion. Its presence in the long-distance market makes tacit collusion extremely unlikely.¹¹¹

The third structural characteristic that frustrates any effort to achieve and maintain tacit collusion in this industry is the marked differences that exist in the market shares of the three largest firms. These unequal shares tend to confound the sort of mutually cooperative behavior that must be achieved without explicit communication if tacit collusion is to succeed.¹¹² Unless MCI and Sprint are content to continue to hold the market shares they now possess

¹⁰⁶ F.M. SCHERER AND DAVID ROSS, *INDUSTRIAL MARKET STRUCTURE AND ECONOMIC PERFORMANCE* 18 (1990).

¹⁰⁷ ROGER SHERMAN, *THE ECONOMICS OF INDUSTRY* 264 (1974).

¹⁰⁸ TELEPHONE TRENDS, *supra* note 5, at 45 (Tbl. 30).

¹⁰⁹ See Robert W. Staiger & Frank A. Wolak, *Collusive Pricing with Capacity Constraints in the Presence of Demand Uncertainty*, 23 RAND J. ECON. 203 (1992), where in referring to SCHERER & ROSS, *supra* note 105, it notes a "large body of empirical evidence" supports the proposition that the incentive for vigorous price competition is most likely when capacity utilization is low. *Id.* at 203. The authors provide additional theoretical support for this proposition, concluding that price undercutting and market share instability can emerge if excess capacity is sufficiently great. *Id.* at 216.

¹¹⁰ While the traditional argument about the role of excess capacity in frustrating collusive agreements has been cast in terms of breaking down an existing agreement, the logic of this argument applies equally to the inability to form such an agreement in the presence of excess capacity.

¹¹¹ STEPHEN MARTIN, *INDUSTRIAL ECONOMICS: ECONOMIC ANALYSIS AND PUBLIC POLICY* 149-50 (1988).

¹¹² This point has explicitly been recognized by various regulatory bodies including the FCC. See, e.g., *AT&T Price Cap Order*, *supra* note 27, para. 25.

¹¹³ For an example of research demonstrating the confounding effects of marketplace asymmetries on supra-competitive pricing see Charles F. Mason, Owen R. Phillips & Clifford Novell, *Duopoly Behavior in Asymmetric Markets: An Experimental Evaluation*, 74 REV. OF ECON. AND STAT. 662. 670

(which, historically, they clearly have *not* been content to do), their efforts to expand their shares will doom to failure any tacitly collusive agreement. The inherent tension created by substantially different market shares also serves to reduce the likelihood of tacit collusion.

The fourth characteristic of the long-distance market that is fundamentally incompatible with tacit collusion is the relatively complex structure of prices and the predominant mechanism through which effective price changes are now instituted. The sort of coordination-without-communication required for tacit collusion to succeed is generally thought to require a high degree of product homogeneity with a very simple price structure, i.e., a single, widely known, price that is the same for each unit of output sold.¹¹³ Without such pricing simplicity, it becomes exceedingly difficult for the parties to the (unstated) agreement to know what price they are supposed to charge. It also becomes much more tempting to cheat on the agreement by lowering price, because such behavior is more difficult to detect with a complex pricing structure.

In the interexchange telecommunications market, however, pricing is anything but simple. The price for a minute of long-distance service from a given supplier is likely to vary with distance, duration, time of day, day of the week, and which (if any) discount program is selected. Moreover, some carriers compete by eliminating the distance sensitivity of long-distance calling, while other carriers compete by altering the time increments over which a call will be measured. Additionally, numerous and frequent price changes are initiated in this market by the various carriers through a plethora of discount programs and affinity marketing plans. For example, joint marketing efforts between long-distance carriers

and airlines offer frequent flier miles in exchange for using the long-distance carriers' service.¹¹⁴ Other similar joint marketing programs between major U.S. companies and interexchange carriers are becoming increasingly popular.¹¹⁵ The presence of these "in kind" discounts make the pricing — both identification and agreement — necessary for successful tacit collusion among the various interexchange carriers highly unlikely.

In recent years the use of short-run promotions also has grown as a competitive instrument in this market. For instance, in each of the past two years, AT&T has introduced over 400 promotional offerings.¹¹⁶ Finally, the use of individual contracts between customers and long-distance carriers has increased in recent years. Since 1993, AT&T alone has filed some 2,000 contract tariffs for individual customers.¹¹⁷ As a result, it is extremely difficult for a competitor to know the effective price being charged and very easy for any given competitor to "cheat" on any pricing that is perceived to be above competitive levels. In this incontrovertibly complex and dynamic pricing environment, it strains credibility to contend that competitors could formulate and sustain a tacitly collusive agreement to charge supra-competitive prices.

The fifth characteristic of the interexchange telecommunications market that is unfavorable to tacit collusion is the dynamic nature of the technology in this industry.¹¹⁸ Where new products and/or production techniques are a common occurrence, collusive arrangements tend to be particularly difficult to sustain, because such changes provide expanded opportunities and incentives to increase profits by cheating on the agreement.¹¹⁹ While a price cut, if detected, may be retaliated against quickly by rival producers, thereby rapidly eroding the potential

(1992) ("Our results indicate that asymmetry is a powerful control on cooperative behavior in highly concentrated markets . . .").

¹¹³ DENNIS W. CARLTON ET AL., *MODERN INDUS. ORGANIZATION* (2d ed. 1994) "Firms have more difficulty agreeing on relative prices when each firm's product has different qualities or properties." *Id.* at .

¹¹⁴ MCI pioneered this type of program in 1988 and now has arrangements with at least four major airlines, American Airlines, Northwest Airlines, Continental Airlines, and Southwest Airlines, that also include cellular and paging service. *Pager Messages Turn Into Frequent Flyer Miles with MCI*, PR NEWswire, Mar. 14, 1995, Financial Section. AT&T has similar marketing programs and offers three USAir discount certificates to some of its Universal Mastercard credit and phone cardholders. Lisa Fickenscher, *Marketing: AT&T and American Express Pile Extras on College Cards*, AMERICAN BANKER, Sept. 5, 1995, at 24. American Express has offered its cardhold-

ers 30 minutes of free MCI long-distance calls every month for a year. *Id.* These types of programs, driven exclusively by the rivalrous competition between the various long-distance carriers, undeniably benefit long-distance consumers even though the benefits may not appear in an examination of tariffed rates.

¹¹⁵ One example is AT&T offering customers the opportunity to accumulate points toward a trip to Walt Disney World. Edmund L. Andrews, *Finding Best Deal Among Long-Distance Calling Plans*, NY TIMES, Jan. 21, 1995, at 48.

¹¹⁶ *Ex Parte Presentation*, *supra* note 1, at 39-40.

¹¹⁷ *Id.* at 40.

¹¹⁸ "Industries that are subject to rapid technological change find it particularly difficult to reach agreements." Alexis Jacquemin et al., *Cartels, Collusion, and Horizontal Merger*, in: HANDBOOK OF INDUS. ORGANIZATION 415, 420 (Richard Schmalensee et al., eds., 1989).

¹¹⁹ *Id.*

gains from cheating, a new product cannot be so easily replicated. Consequently, the incentive to cheat through product innovations can exceed the incentive to cheat by simply reducing prices on a standardized product. The outcome, however, is the same. As all firms face the same incentives, cheating spreads and the collusive arrangement breaks down. Therefore, industries characterized by rapid product innovation, such as the long-distance market, are generally considered to be unlikely candidates for tacit collusion.¹³⁰

A sixth aspect of the interexchange marketplace that undermines the potential for supra-competitive pricing from tacit collusion stems from its market demand characteristics. The well-known skewness in the demand for long distance services — wherein a relatively small share of interexchange customers account for a considerably larger share of the long distance business generated — creates a tremendous incentive for individual carriers to price aggressively. Given the demonstrated willingness of customers to switch their long distance carrier, this skewness of demand creates huge opportunities for large market share gains through aggressive pricing in the event that any other carrier or set of carriers is not similarly pricing aggressively. At the same time, this skewness, taken together with the willingness to switch long distance carriers, makes virtually every firm in the interexchange marketplace vulnerable to large market share losses if its prices were to rise to supra-competitive levels as a result of tacit collusion. Additionally, the overwhelming propensity of long-distance consumers to switch their long-distance pro-

vider also undermines the prospect for tacit collusion. "It follows that collusion is more likely to be successful if customers do not switch suppliers very often."¹³¹

A seventh structural characteristic of the interexchange marketplace that erodes the potential for supra-competitive pricing from tacit collusion is the large number of firms that provide long-distance telephone service in the United States.¹³² It is well established in the theoretical and empirical literature that as the number of competitors in a market grows the ability of the market to sustain supra-competitive pricing falls. In particular, as the number of competitors expands, the ability of the various competitors to have a "meeting of the minds" becomes geometrically more difficult.¹³³ The sheer volume of competitors and their virtual ubiquity provide a huge structural impediment to the prospect for tacitly collusive supra-competitive pricing.

In addition to these structural characteristics, the behavioral evidence against tacit collusion is equally compelling. At least four aspects of observed conduct and performance are clearly inconsistent with the claim that tacit collusion is occurring in this market. First, the downward trend in industry prices over the past eleven years is clearly inconsistent with successful collusion. Real transaction prices net of access charges have fallen consistently since divestiture. Moreover, the prices from which this downward trend started had been set by regulators at "just and reasonable" levels. It is hard to envision how one can reconcile this trend with tacit collusion.¹³⁴

Second, AT&T's market share has exhibited

¹³⁰ There has been a proliferation, if not explosion, of new service offerings to long-distance consumers in the post-divestiture period. A partial accounting for California alone found that a minimum of 130 new long-distance services had been made available to interexchange consumers in that state between 1984 and 1994. CAL. PUB. UTIL. COMM'N, Ex. JWM-16 (Rebuttal Testimony of John W. Mayo) (transcript on file with author). See also Peter Pitsch, *A Brief History of Competition in the Long Distance Communications Market*, at Tbl. 2, in *Ex Parte Presentation in Support of AT&T's Motion for Reclassification as a Nondominant Carrier* (Sept. 22, 1994).

¹³¹ MARTIN, *supra* note 110, at 147.

¹³² A related structural characteristic, market concentration, is sometimes thought to facilitate tacit collusion. While market concentration may, *ceteris paribus*, facilitate tacit collusion, this factor is benign in the case of the long-distance industry. As noted in the body of this paper, numerous other structural characteristics undermine the ability of this market to successfully maintain supra-competitive tacitly collusive prices, regardless of the extent of concentration. Nothing about market concentration, *per se*, mitigates any of the other impediments to successful tacit collusion. Moreover, any partial tacit collusive scheme that involves only the "concentrated" firms in this market becomes a

license for other non-participating firms to expand sales and profits. In particular, where the elasticity of supply of these other market participants is high (i.e., barriers to entry and expansion are low), as it unequivocally is in this industry, any "meeting of the minds" among a subset of the over 450 participants will be defeated by standard market forces.

¹³³ See, e.g., MICHAEL KATZ & HARVEY S. ROSEN, *MICROECONOMICS* 565 (1991) ("The more firms in a market, the less likely is cooperation, *ceteris paribus*").

¹³⁴ Paul W. MacAvoy has asserted that prices have recently risen and argued that this, along with allegedly stable market shares, indicates that tacit collusion exists in this industry. See Aff. of Paul W. MacAvoy at 52-53, *United States v. Western Elec. Co., Inc. & AT&T* (D.C. Cir. 1956) (Civ. No. 82-0192), in *RBOC Comments*, *supra* note 75, Att. A; MacAvoy, *supra* note 99. This proposition has been rebutted with the argument that MacAvoy's perceived price increases are illusory (stemming from examination of AT&T's basic schedule tariffed rates rather than the transaction prices consumers actually pay), and that the alleged market share stability has turned out to be extremely short-lived. *Id.* at 9, 18 (Affs. of R. Glenn Hubbard and William H. Lehr).

marked instability throughout the post-divestiture period. AT&T's market share reveals the net effect of substantial underlying customer churn among the competitors in this market. Unstable market share is generally considered to be *prima facie* evidence of an *absence* of successful collusion. Even opponents of relaxed symmetric regulation in the interexchange market acknowledge this point (albeit in different forums). For example, Jerry Hausman has stated that "[c]hanging market shares are a sign of strong competition."¹²⁶ Richard Schmalensee has also acknowledged this point, writing that "[w]hile stable market shares and firm ranks are consistent in principle with either collusion or competition, most would argue that unstable shares and ranks are inconsistent with effective collusion."¹²⁷ Observed market share changes in the long-distance industry therefore are also inconsistent with tacit collusion.

Third, the advertising and aggressive marketing campaigns of the three largest firms are inconsistent with tacit collusion. These campaigns reveal an intense rivalry and focus on price information that would not likely exist under tacit collusion. For example, a large proportion of competitors' commercials are directly aimed at taking customers from rivals by informing them of their new discount programs. These programs account for much of the observed price reductions implemented in recent years. This advertising represents a drain on joint profits and, therefore is inconsistent with the maintenance of a tacit cooperative agreement among these firms. In sum, the overtly aggressive solicitation efforts that are readily observable at the most casual level belie the contention that the interexchange market is characterized by tacit collusion.

Fourth, if the hypothesis that tacit collusion has arisen in the interexchange market in recent years was correct, a distinct change in the supply behavior of the smaller firms in the industry should be observed at the time such an agreement arose. As can be seen in Figure 2, however, no such change is apparent in the data on AT&T's competitors' output at any point in time. As discussed above, applying a more rigorous, explicit econometric test by modeling

the market demand and competitive fringe supply curves simultaneously while controlling for various exogenous factors yields no evidence whatsoever to support a finding of tacit collusion.¹²⁷ Industry structure, observed behavior, and formal econometric testing thus all confirm the conclusion that tacit collusion will not arise and has not arisen in this market.¹²⁸

Moreover, contrary to assertions advanced by MacAvoy,¹²⁹ recent rate restructuring in the long-distance market — basic schedule increases more than offset by price cuts in discount offerings — appears to reflect competitive pressures to move prices to cost. "AT&T's basic schedule rates do not recover the direct costs of serving the one third of customers" that call less than \$3 per month.¹³⁰ These costs include monthly subsidy costs for universal service "of \$.52 per customer and bill-rendering costs ranging from \$.33 to \$.88 per customer."¹³¹ Thus, in contrast to the fanciful tale of tacit collusion, a far more straightforward market-based explanation exists for the upward movement of certain MTS rates by the various interexchange carriers. Specifically, AT&T has an incentive to raise basic rates toward competitive levels to begin to cover the marginal costs of serving these low volume customers. By the same token, MCI and Sprint and the other long-distance carriers have an equally strong incentive to match these increases to avoid attracting the unprofitable part of the market. Competition drives market prices to costs, and that may mean either an increase or a decrease in these rates.

The pricing actions taken by AT&T, MCI, and Sprint in the rest of the residential market are more relevant to this debate. The potential gains from collusive pricing would have been the greatest in this higher volume, more profitable segment of the market.¹³² Instead of maintaining rates, however, the major carriers have frequently cut prices and introduced widely-touted new offers over the last five years to attract customers in this segment. Therefore, recent pricing actions in the long-distance market are better characterized as a movement to cost-based prices and enhanced competition, not as an outcome

¹²⁶ See Aff. of Jerry Hausman at 14, *W. Elec. Co.*, in RBOC Comments, *supra* note 75, Att. C.

¹²⁷ Richard Schmalensee, *Inter-Industry Studies of Structure and Performance*, in 2 HANDBOOK OF INDUS. ORGANIZATION 951, 999 (Richard Schmalensee et al., eds., 1989).

¹²⁸ Kahai et al., *supra* note 27, at 29.

¹²⁹ Earlier studies discussed in this article also confirm that reduced and symmetric regulation of AT&T has not resulted in successful tacit collusion. See, e.g., Mathios & Rogers, *supra*

note 77, at 438-39; Kaestner & Kahn, *supra* note 76, at 364. If such collusion had materialized in a more relaxed regulatory environment, prices should have been increased, not decreased.

¹³⁰ See *supra* note 124.

¹³¹ *Ex Parte Presentation*, *supra* note 1, at 51 n.119.

¹³² *Id.*; see also AT&T's Reply Comments in CC Dkt. No. 79-252, Att. B., at 20-21 (Sept. 18, 1990) (statement of Stanley M. Bensen).

¹³³ See Pitsch, *supra* note 120, at 38.

of tacit collusion.

Finally, one must question the relevance of the tacit collusion argument to the issue of whether to reclassify AT&T as a non-dominant carrier and to further eliminate any remaining asymmetric regulatory controls. It is generally conceded that regulation of prices in a market tends to make collusion *more* likely, not less likely.¹³³ Pre-announcement of price changes, notification requirements, intervention opportunities, and open discussions of market conditions in regulatory forums all *discourage* aggressive price competition and facilitate the sort of information exchanges that tend to promote collusive outcomes. As a result, even if one believes that the interexchange market is conducive to tacit collusion (which it is not), the appropriate policy action would still be to eliminate direct price regulation of AT&T by reclassifying it as nondominant. In so doing, more aggressive competition would be fostered, and the likelihood of tacit collusion would be reduced.

B. Predatory Pricing

Another concern that has been raised is the possibility of predatory pricing by AT&T. This problem vanishes as soon as one recognizes how predatory pricing must operate and the industry characteristics that must be in place for the strategy to succeed.¹³⁴ Predatory pricing involves a two-step process. First, a firm reduces its prices below costs in order to drive rival producers out of the market. Then, following such exit, the successful predator raises its prices well above the competitive level in order to recoup the losses incurred during the period of predation. For predatory pricing to occur, existing rivals must have relatively low sunk costs so that their exit can be encouraged at reasonable expense. Also, for the predator to recoup losses through future profits, substantial barriers to entry must exist to protect it from

post-predation competition. Clearly, neither of these two conditions exist in the interexchange market. Predatory pricing therefore is extremely unlikely to occur in this industry.

To understand how exaggerated the concern over predatory pricing in the interexchange market is, one need only consider the events that would have to occur under the scenario envisioned. First, AT&T would have to run more than 450 other firms out of business by charging unjustifiably low rates while the FCC, state regulatory commissions, and antitrust authorities stood by without intervening. Moreover, all of the transmission and switching capacity owned by these other firms (much of which represents sunk costs) would have to be purchased by AT&T in order to keep it out of the hands of new competitors. Then, AT&T would have to raise its rates above the competitive level to regain its losses without attracting market entry (or reentry). Once again, this would have to occur while regulatory commissions and antitrust authorities stand idly by. Obviously, this sequence of events is extremely improbable.

The argument that a less-stringent regulatory environment would lead to predatory pricing is also rebutted by observing state level developments. If relaxed regulation leads to predation, then those states that have implemented such a policy should have realized a reduction in the number of interexchange carriers as AT&T lowered its rates to predatory levels.¹³⁵ A recent empirical analysis of the impact of relaxed regulation on the number of long-distance firms competing within each state, however, reveals no significant effect.¹³⁶ Reduced and/or symmetric regulation of this firm has not resulted in significant exit by rival producers. Consequently, it has not led to predation and relaxed and symmetric regulation will not lead to predation in the future under any plausible examination of evolving industry conditions.¹³⁷

¹³³ See, e.g., SCHERER & ROSS, *supra* note 105, at 266 ("Government agencies may inadvertently facilitate price parallelism by setting ceiling prices, e.g., as part of anti-inflation campaigns.").

¹³⁴ For a more complete discussion of both the theory and empirical evidence relating to predatory pricing in general see KASERMAN & MAYO, *supra* note 20, at 128-42.

¹³⁵ Under current antitrust standards, a claim of predatory pricing must pass what has come to be known as an incentive logic filter if it is to withstand a motion for summary judgment. Where a prolonged period of alleged predation has not resulted in substantial exit, the allegation fails to pass this filter, because the alleged behavior simply does not make sense economically under these circumstances. See *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 589 (1986) (The Supreme

Court observed that "there is a consensus among commentators that predatory pricing schemes are rarely tried, and even more rarely successful."). A summary of the economics of this case is presented in Kenneth G. Elzinga, *Collusive Predation: Matsushita v. Zenith*, in *THE ANTITRUST REVOLUTION* (John E. Kwoka and Lawrence J. White eds., 1989).

¹³⁶ Simran K. Kahai, David L. Kaserman & John W. Mayo, *Deregulation and Predation in Long Distance Telecommunications: An Empirical Test*, *ANTITRUST BULL.*, Fall 1995, pp. 645-66.

¹³⁷ The authors of this study concluded:

In this paper, we have attempted to buttress the theoretical argument against the predatory pricing hypothesis with empirical evidence. Our findings yield no support for the argument that reduced regulation has resulted in pre-

C. Low Volume/Rural Customers

A common concern among regulators considering reduced regulation for AT&T has been that, with increased pricing flexibility, AT&T may be able to raise its rates to certain customer groups above competitive levels without experiencing a sufficient decline in sales to render such rate increases unprofitable.¹⁴⁰ In other words, while the overall interexchange market may be subject to effective competition, pockets of customer groups could remain susceptible to abuse. If so, relaxed regulation might lead to lower rates for some groups and higher (than competitive) rates for others. In particular, low volume residential customers and rural customers have been perceived to be at risk. These concerns, however, are unfounded.

First, the fundamental premise of the argument is inaccurate. In order for specific customer groups to be subject to abuse, they must first be confronted with monopoly or near-monopoly supply. That is, these groups must have a limited number of long-distance firms from which to choose, or they must be unwilling to switch suppliers in response to a significant price increase. Neither of these conditions exists in the long-distance market. The empirical evidence pertaining to the interexchange market reveals that substantial competitive choices are available to all customer groups, regardless of their geographic location or volume of usage;¹⁴¹ and a disaggregated breakdown of industry churn numbers reveals that low volume users do, in fact, frequently switch carriers, and these users are spread across all demographic groups.¹⁴² The assertions that low volume or rural customers face a limited choice of carriers, that they will not change carriers, or that they fit some specific demographic group, are simply myths. These customers *do* have choices, they *do* exercise those choices, and they span all demographic groups. Therefore, they do not need special regulatory

protection.

Second, from an economic perspective, concerns about adverse pricing to specific customer groups ultimately involve concerns about price discrimination. Price discrimination occurs where different prices are charged to different groups of customers, with the price differences not based upon differences in the costs of serving those groups. For price discrimination to occur, two necessary conditions must exist. The firm practicing price discrimination must hold some degree of market power and arbitrage across customer groups must be prevented.¹⁴³ In the long-distance market, neither condition is met. All customer groups have a choice of carrier in a market with effective competition and are, therefore, not susceptible to discriminatory prices. Also, arbitrage opportunities exist through the ability to resell. As a result, any attempt to raise the rates for low volume or rural customers, by an amount that is not justified by underlying differences in the costs of serving such customers, will be defeated by the supply response of competitors and/or arbitrage by resellers. Market conditions will not tolerate the sort of behavior that would subject these groups to abuse.

Third, all of the empirical studies surveyed in this article¹⁴⁴ have used the basic schedule tariff rates as their price variables in the empirical analyses. The schedule tariff rates are the *maximum* rates that low volume and residential customers pay when they place a long-distance call.¹⁴⁵ Customers enrolled in a discount program pay a lower rate. As a result, the findings, that reduced regulation leads to significant price reductions and that AT&T does not hold significant market power, are not limited to large volume or urban customers. Such conclusions apply to *all* customers, including those paying the full tariffed (non-discounted) rates.

Finally, identical concerns about low volume or rural customer groups have been voiced previously at the state level as well. Despite such concerns, how-

dation. In conjunction with the prior empirical literature relating to this market, the evidence strongly suggests that: (1) long-distance prices have fallen with divestiture and increased competition; (2) these prices have fallen more where regulatory constraints on AT&T have been relaxed; and (3) the price reductions observed have had no predatory effects.

Id. at 20.

¹⁴⁰ Regulators should not be concerned about AT&T raising its rates to competitive levels under a more relaxed regulatory environment. Moving prices toward marginal cost is generally welfare-improving regardless of whether that movement is upward or downward from the existing level.

¹⁴¹ Moreover, note that the demographic characteristics of

low-volume long-distance customers is very similar to the demographic profile of other long-distance consumers. Thus, there is no sound basis for using volume-sensitive regulation to attempt to promote income redistribution goals. See *Ex Parte Presentation*, *supra* note 1, Att. O.

¹⁴² See Mar. 9 *Ex Parte Presentation*, *supra* note 51 (charts indicating that the consumer profile of light users is comparable to heavy users).

¹⁴³ See Hal R. Varian, *Price Discrimination*, in 1 *HANDBOOK OF INDUS. ORGANIZATION* 597, 599 (R. Schmalensee et al., eds., 1989).

¹⁴⁴ Mathios & Rogers, *supra* note 77; Kaestner & Kahn *supra* note 76; Ward, *supra* note 43; Kahai et al., *supra* note 27.

¹⁴⁵ 47 U.S.C. § 203 (1994).

ever, many states have implemented reduced/symmetric regulatory policies, and the feared abuse of these customer groups has not occurred. Compelling evidence that such groups are not at risk is provided by the fact that state regulatory agencies have continued to monitor performance and have not reinstituted prior regulatory controls. In fact, the empirical evidence strongly suggests that low volume and rural customers stand to gain from reduced regulation. As a result, the combined evidence shows that continued asymmetric regulation of AT&T, which is ostensibly intended to protect these customer groups, actually has the effect of harming them.

VI. CONCLUSION

In this paper, we have drawn together and assessed a wide array of evidence relevant to asymmetric regulation of AT&T and its classification under existing FCC and state regulatory commission rules. This evidence comes from a decade of experience during which market conditions have evolved rapidly, many states have implemented a variety of relaxed (and symmetric) regulatory policies, and the FCC has applied reduced regulation to AT&T's business services. Such evidence consists of descriptive data pertaining to the underlying economic determinants of market power; empirical studies of the effects of relaxed regulation at the state level on the prices charged in the interexchange market; experience in the provision of AT&T's interstate business services under streamlined regulation; and empirical studies that directly estimate the degree of market power held by AT&T.

Given both the economic and regulatory definitions of dominance, the principal criterion for regulatory agencies' asymmetric regulation policies is the presence or absence of significant market power on the part of AT&T. The weight of the evidence considered herein overwhelmingly supports the conclusion that AT&T does *not* possess significant market power in the interexchange market. The various studies and indicia reviewed paint a consistent picture of a firm that faces very effective competition. As a result, the recent decision by the FCC to declare AT&T to be "nondominant" is thoroughly supported on economic grounds.

We have also considered several other competitive concerns that have arisen over the years regarding likely market performance under a more relaxed, symmetric regulatory policy. Here, too, the evidence strongly suggests that such residual concerns do not support a continuation of the classification of AT&T as a dominant firm or the continuation of a regulatory scheme which applies more stringent rules to AT&T than to its competitors. The market conditions that exist for interexchange services simply are not conducive to the sort of behavior that these concerns must postulate. Moreover, actual market experience also demonstrates that the feared consequences of relaxed regulation have not and will not materialize. Therefore, both economic theory and empirical evidence support the FCC's decision to cease classifying AT&T as a dominant carrier. This evidence further demonstrates that no principled basis exists for the continuation of remaining asymmetrical regulatory policies of interexchange carriers at both the federal and state level.

FIGURE 1
Long-Distance Firms Purchasing Equal Access

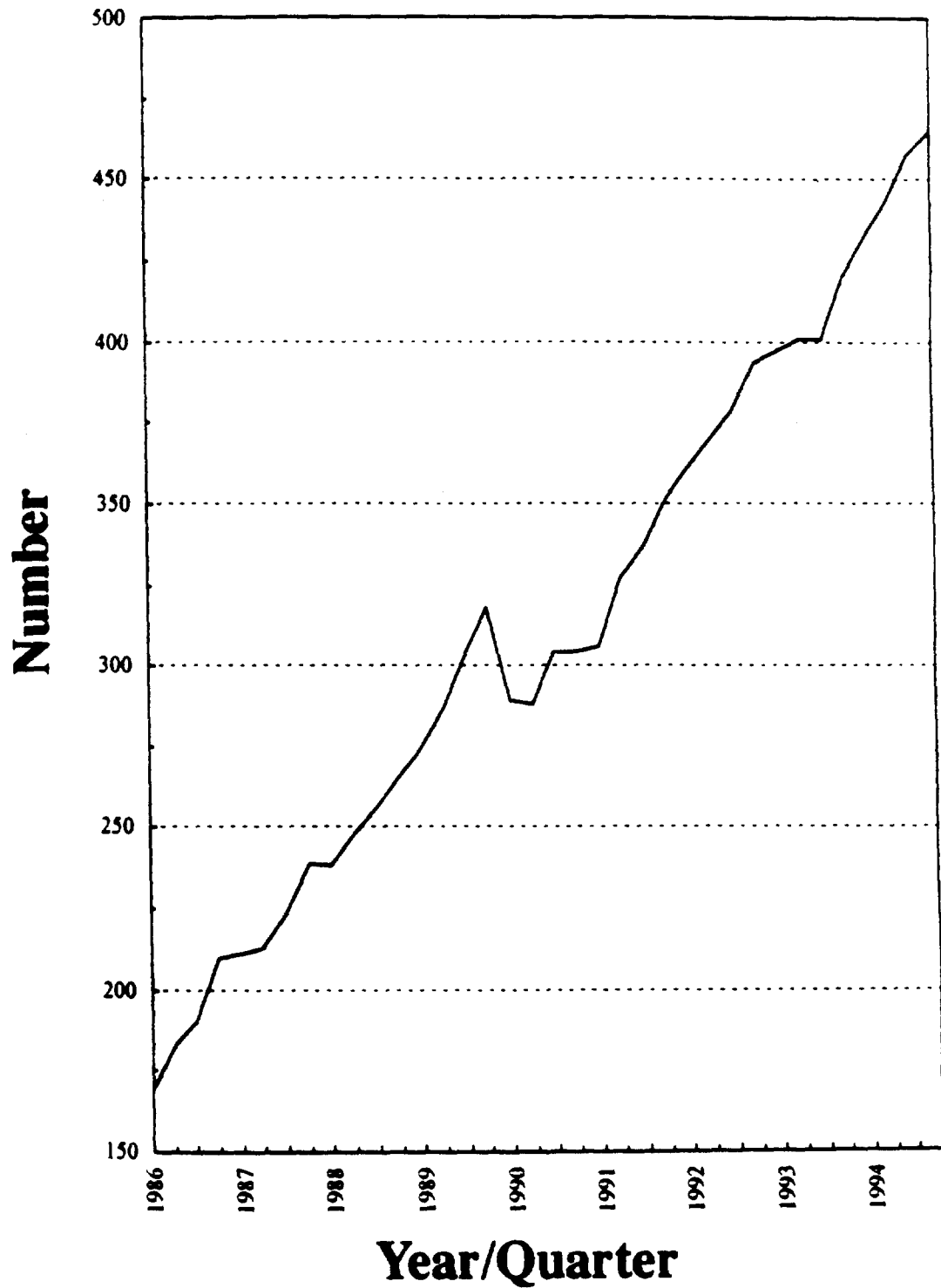


FIGURE 2
Output of AT&T's Competitors

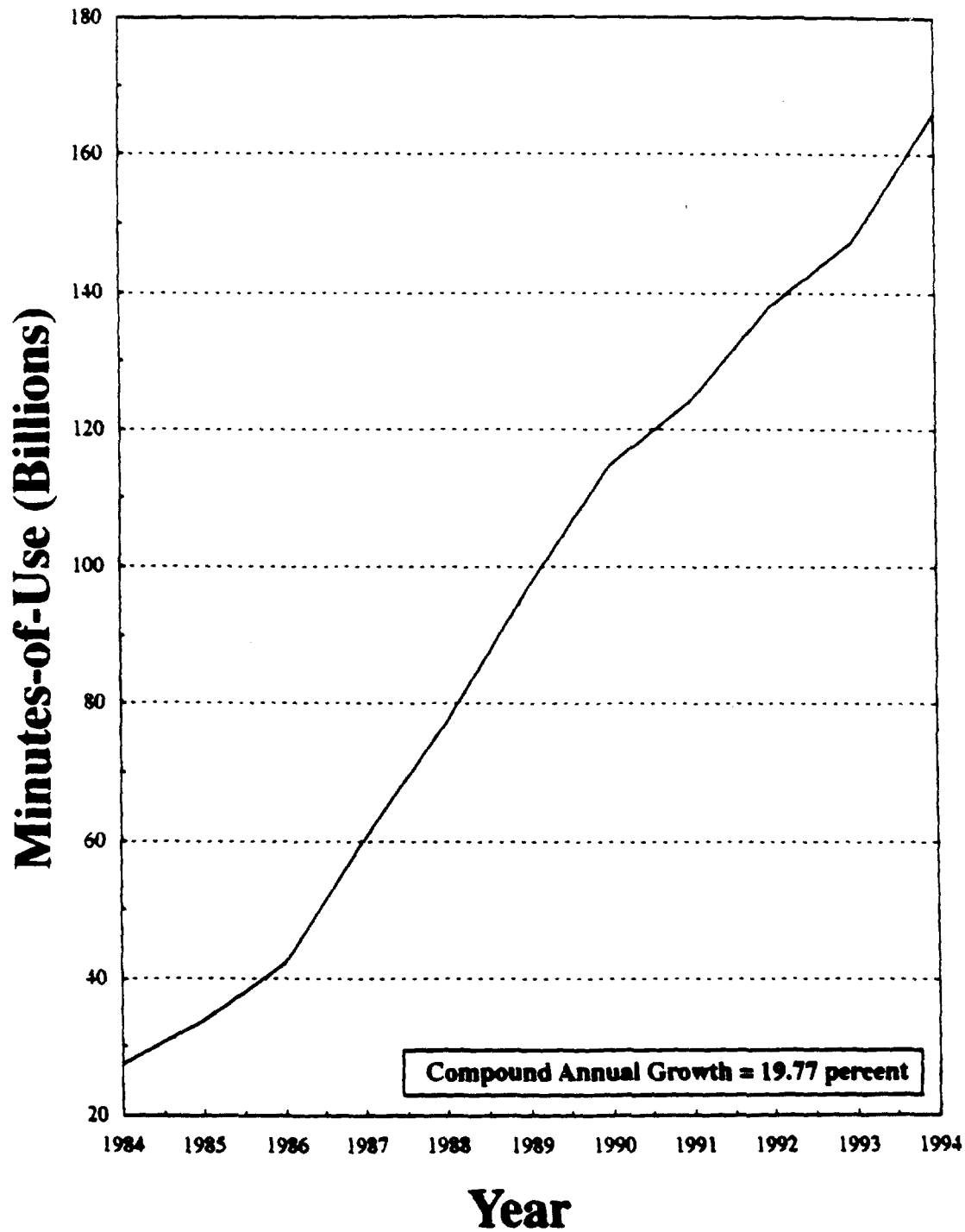
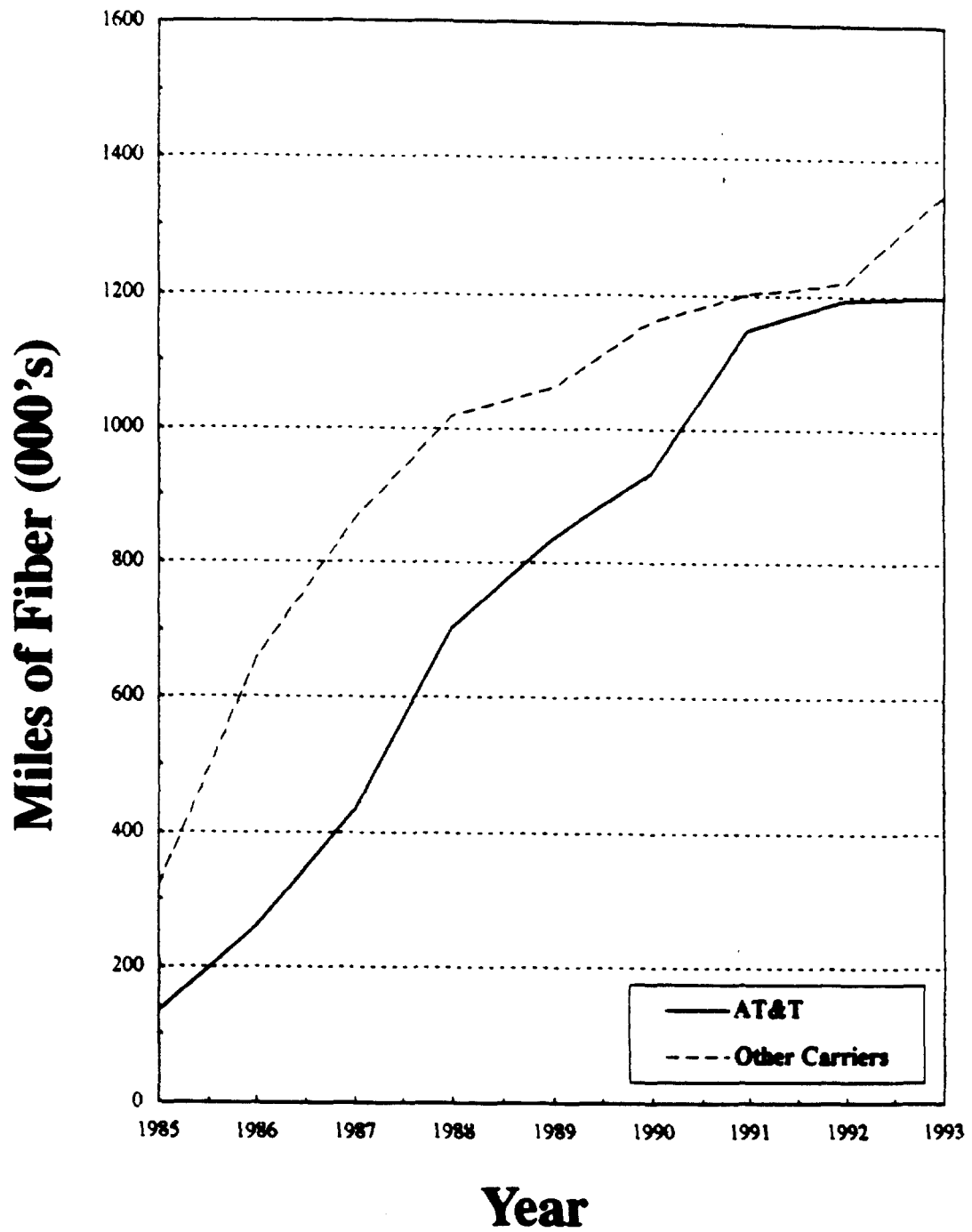


FIGURE 3
Deployment of Interexchange Company Fiber-Miles



Share of Market

